What is claimed is:

1. A thermal regulating system for maintaining individual temperatures of a plurality of components within a predetermined temperature range, said thermal regulating system comprising:

a refrigeration system having a refrigerant contained in a refrigerant line, and a plurality of evaporators configured for thermal attachment to said components;

a supplemental heating system; and

wherein said refrigeration system and said supplemental heating system are operable to maintain each of said plurality of components within said predetermined temperature range.

2. The thermal regulating system of claim 1, wherein said refrigeration system comprises a variable capacity compressor operable to vary a mass flow rate of said refrigerant through said refrigerant line, said refrigerant line passing through said evaporators in a serial arrangement.

3. The thermal regulating system of claim 2, wherein each evaporator is configured for thermal attachment to a respective component, and wherein said mass flow rate of said refrigerant through said plurality of evaporators is configured to be controlled according to a heat load applied to said refrigeration system.

4. The thermal regulating system of claim 2, further comprising:

a controller operable to control the capacity of the compressor through an output line connected between said controller and said compressor;

a plurality of input lines connected between said controller and a plurality of temperature sensors attached to respective ones of said components; and

wherein said controller is operable to control the capacity of the compressor in response to temperature measurements transmitted to the controller by said temperature sensors.

5. The thermal regulating system of claim 4, wherein said controller comprises a proportional, integral, derivative controller with a relay.

6. The thermal regulating system of claim 1, further comprising a valve positioned generally upstream of said plurality of evaporators, said valve being connected to a sensor to detect superheat in said refrigerant exiting said plurality of evaporators, said valve being operable to vary the mass flow rate of said refrigerant through said plurality of evaporators based upon said detected superheat, to thereby control the amount of refrigerant superheat formed in the plurality of evaporators.

7. The thermal regulating system of claim 6, wherein said valve comprises a thermostatic expansion valve.

**9.** The thermal regulating system of claim 1, wherein said supplemental heating system comprises:

a plurality of supplemental heaters, each of said heaters being operable to heat a respective component.

**10.** The thermal regulating system of claim 9, wherein said supplemental heaters are operable to be independently controlled by a controller.

**11.** The thermal regulating system of claim 9, wherein said supplemental heaters are operable to be independently controlled by respective controllers.

**12.** A method for thermally regulating multiple components of a computer system having multiple fluctuating heat loads, said method comprising the steps of:

controlling a flow of a refrigerant through a refrigerant line in a refrigeration system having a variable capacity compressor, said refrigeration system further including a plurality of evaporators and a valve, said valve being configured to meter said flow of said refrigerant through said plurality of evaporators, said plurality of evaporators configured for thermal attachment to said multiple components;

sensing a temperature of the refrigerant in a position generally downstream of said plurality of evaporators; and

modifying said flow of said refrigerant through said plurality of evaporators in response to said temperature being outside a predetermined superheat temperature range.

13. The method for thermally regulating multiple components of claim 12, comprising the further steps of:

manipulating said valve to decrease the mass flow rate of refrigerant through said plurality of evaporators when said sensed temperature is below a predetermined superheat set point; and

manipulating said valve to increase the mass flow rate of refrigerant through said plurality of evaporators when said sensed temperature is above said predetermined superheat set point.

14. The method for thermally regulating multiple components of claim 12, comprising the further steps of:

sensing a component temperature for each of said components;

modifying a capacity of said variable capacity compressor in response to said component temperatures being outside a predetermined component temperature range.

15. The method for thermally regulating multiple components of claim 14, comprising the further steps of:

increasing the capacity of said variable capacity compressor in response to a maximum component temperature of said component temperatures exceeding or equaling a predetermined maximum temperature set point; and

decreasing the capacity of said variable capacity compressor in response to a minimum component temperature of said component temperatures being less than or equal to a predetermined minimum temperature set point.

16. The method for thermally regulating multiple components of claim 12, comprising the further steps of:

sensing a component temperature for each of said components;

varying the operation of at least one supplemental heater operable to affect the temperature of each of said components in response to said component temperatures being outside a predetermined component temperature range.

17. The method for thermally regulating multiple components of claim 16, comprising the further steps of:

turning off a respective supplemental heater, when said supplemental heater is on, for those components whose component temperatures are greater than or equal to a predetermined minimum temperature set point.

18. The method for thermally regulating multiple components of claim 16, comprising the further steps of:

turning on a respective supplemental heater, when said supplemental heater is off, for those components whose component temperatures are less than a predetermined minimum temperature set point.

19. The method for thermally regulating multiple components of claim 12, comprising the further step of initializing a counter and allowing a predetermined amount of time to pass prior to performing said component temperature sensing step.

**20.** A multi-load thermal regulating system for maintaining individual temperatures of a plurality of heat generating components within a predetermined temperature range, said thermal regulating system comprising:

a plurality of evaporators, each of said evaporators being thermally attachable to a respective heat generating component, wherein said plurality of evaporators are connected in a serial arrangement;

a plurality of supplemental heaters, each of said supplemental heaters operable to supply supplemental heat to respective ones of said heat generating components;

a refrigerant line for conducting refrigerant through said plurality of evaporators;

a variable capacity compressor connected to said refrigerant line and operable to control the mass flow rate of said refrigerant through said refrigerant line;

a thermostatic expansion valve connected to said refrigerant line and configured to be manipulated by a superheat sensor, wherein said thermostatic expansion valve is operable to control the superheat of said refrigerant between said thermostatic expansion valve and said superheat sensor; and

a proportional, integral, derivative controller configured to transmit signals to said variable capacity compressor to vary the mass flow rate of said refrigerant in response to a plurality of sensed temperature measurements measured by a plurality of component temperature sensors.